

Purchasing Receipts

| PO No | Supplier No | Line Item No | Rel No | Purchased Terms | Purchased Item | Description | For Project No | Equipment ID | Order Qty | Due Date | Received Quantity | Accounting Job No | Container No | Status | Receive Date | Price/Unit | Aging Days | Past Due | Total | Supplier Name |
|----------|-------------|--------------|--------|-----------------|-------------------|-------------------------------|----------------|--------------|-----------|-----------|-------------------|-------------------|--------------|-----------|---------------|------------|------------|----------|---------------------------|---------------|
| PO039709 | MCMM001-VU | 1 | 1 | 2% 10 Net 30 | 8948T12 | Welded Master Link receive ea | | | 6 | 4/27/2018 | 6 | 5066765 | Stock | 4/30/2018 | \$ 75.65 / Ea | 0 | | \$453.90 | McMaster-Carr Supply Co., | |
| | | 3 | | | 188-FSCS-1032-3/4 | Bolt | | | 50 | | 50 | 5066766 | Stock | 4/30/2018 | \$ 0.14 / Ea | 0 | | \$7.12 | McMaster-Carr Supply Co., | |
| | | 4 | | | 188-FSCS-1032-5/8 | Screw | | | 100 | | 100 | 5066767 | Stock | 4/30/2018 | \$ 0.08 / Ea | 0 | | \$7.61 | McMaster-Carr Supply Co., | |
| | | 5 | | | 3440T55 | Lifting Cable | | | 50 | | 50 | 5066768 | Stock | 4/30/2018 | \$ 1.34 / ft | 0 | | \$67.00 | McMaster-Carr Supply Co., | |
| | | 6 | | | 6381K193 | Bushing receive pcs | | | 6 | | 6 | 5066769 | Stock | 4/30/2018 | \$ 3.68 / pcs | 0 | | \$22.08 | McMaster-Carr Supply Co., | |
| | | 7 | | | 8183K6 | Wire Guide/Grip | | | 10 | | 10 | 5066770 | Stock | 4/30/2018 | \$ 9.83 / Ea | 0 | | \$98.30 | McMaster-Carr Supply Co., | |
| | | 8 | | | 91074A131 | Cage Bumper Washer | | | 20 | | 20 | 5066771 | Stock | 4/30/2018 | \$ 0.62 / pcs | 0 | | \$12.38 | McMaster-Carr Supply Co., | |
| | | 9 | | | 92373A271 | Anchor Pin | | | 10 | | 10 | 5066772 | Stock | 4/30/2018 | \$ 0.65 / Ea | 0 | | \$6.48 | McMaster-Carr Supply Co., | |
| | | 10 | | | 95327A652 | Hex Head Cap Screw receive ea | | | 30 | | 30 | 5066773 | Stock | 4/30/2018 | \$ 1.63 / Ea | 0 | | \$48.84 | McMaster-Carr Supply Co., | |
| | | 11 | | | 98407A134 | Retaining Ring receive pcs | | | 100 | | 100 | 5066774 | Stock | 4/30/2018 | \$ 0.09 / pcs | 0 | | \$9.13 | McMaster-Carr Supply Co., | |
| | | 12 | | | 8890K165 | Steel Rod | | | 6 | | 6 | 5066801 | Stock | 4/30/2018 | \$ 1.02 / ft | 0 | | \$6.14 | McMaster-Carr Supply Co., | |

| PO No | Supplier | Line Item No | Ref No | Rel Terms | Purchased Item | Description | For Part No | Project | Equipment ID | Order Qty | Due Date | Received Quantity | Accounting Job No | Container No | Status | Receive Date | Price/Unit | Aging Days | Past Due | Total | Supplier Name |
|-------|----------|--------------|-----------|--|----------------|-------------|-------------|---------|--------------|-----------|----------|-------------------|-------------------|--------------|-----------|---------------|------------|------------|----------|--------------------------|---------------|
| | | 13 | 8893K148 | O1 Tool Steel Rod | | | | | | 6 | | | S066802 | Stock | 4/30/2018 | \$ 1.01 / ft | 0 | | \$6.07 | McMaster-Carr Supply Co. | |
| | | 14 | 91247A630 | Hex Head Cap Screw | | | | | | 25 | | | S066775 | Stock | 4/30/2018 | \$ 0.28 / Ea | 0 | | \$7.06 | McMaster-Carr Supply Co. | |
| | | 15 | 97524A032 | Sealing Blind Rivet receive ea | | | | | | 100 | | | S066776 | Stock | 4/30/2018 | \$ 0.10 / Ea | 0 | | \$9.82 | McMaster-Carr Supply Co. | |
| | | 16 | C10-41 | Stain Relief Connector | | | | | | 8 | | | S066777 | Stock | 4/30/2018 | \$ 10.30 / Ea | 0 | | \$82.40 | McMaster-Carr Supply Co. | |
| | | 17 | C20-120 | Locating Pin | | | | | | 25 | | | S066778 | Stock | 4/30/2018 | \$ 0.28 / Ea | 0 | | \$7.03 | McMaster-Carr Supply Co. | |
| | | 18 | C20-560 | Lock Spring Anchor Pin | | | | | | 2 | | | S066779 | Stock | 4/30/2018 | \$ 4.56 / Ea | 0 | | \$9.12 | McMaster-Carr Supply Co. | |
| | | 19 | C20-830 | Lock Washer | | | | | | 100 | | | S066780 | Stock | 4/30/2018 | \$ 0.11 / Ea | 0 | | \$11.30 | McMaster-Carr Supply Co. | |
| | | 20 | EL-PLUG-M | 3-Prong Male Spade Plug | | | | | | 15 | | | S066781 | Stock | 4/30/2018 | \$ 7.03 / Ea | 0 | | \$105.45 | McMaster-Carr Supply Co. | |
| | | 21 | M301S22GA | 301 SS Sheet - Full hard ; MATERIAL: AISI 301 SS SHEET MINIMUM 1/4 HARDNESS (NOT ANNEALED) 2B FINISH AS PER AMS 5517/AMS 5518/AMS 5902/AMS 5519 OR ASTM A666 WHIT MIN. FTU = 125 KSI & MIN FTY = 75 KSI receive sf | | | | | | 3 | | | S066813 | Stock | 4/30/2018 | \$ 27.42 / sf | 0 | | \$82.27 | McMaster-Carr Supply Co. | |

| PO No | Supplier Item No | Line Item No | Rel Terms | Purchased Item | For Description Part No | Project ID | Equipment ID | Order Qty | Due Date | Received Quantity | Accounting Job No | Container No | Status | Receive Date | Price/Unit | Aging Days | Past Due | Total | Supplier Name |
|---------------|------------------|--------------|-----------|-------------------------|--|------------|--------------|-----------|----------|-------------------|-------------------|--------------|----------|--------------|----------------|------------|-------------------|--------------------------|---------------|
| | 22 | | | MT-BRONZE-C63000-R2.250 | Bronze C63000 Round Bar 2.250" : MATLAS PER BRONZE C63000 AS PER ANS 4640 OR ASME SB150 OR ASTM B150 OR SAE J461 OR SAE J463 | | | 1 | | 1 | | S066782 | Stock | 4/30/2018 | \$ 16.22 / ft | 0 | \$17.52 | McMaster-Carr Supply Co, | |
| | 23 | | | RBT16561-31 | 10X Magna-Lite | | | | | 2 | | S066783 | Stock | 4/30/2018 | \$ 26.29 / Ea | 0 | \$52.58 | McMaster-Carr Supply Co, | |
| | 24 | | | SWA3-700 | Ball Bearing | | | | | 100 | | S066784 | Stock | 4/30/2018 | \$ 0.11 / Ea | 0 | \$10.56 | McMaster-Carr Supply Co, | |
| | 25 | | | SWA6A-1900 | Female Spade Terminal - 1/4" | | | | | 100 | | S066785 | Stock | 4/30/2018 | \$ 0.07 / Ea | 0 | \$7.20 | McMaster-Carr Supply Co, | |
| | 26 | | | SWA6A-2000 | 1/8" Female Spade Connector | | | | | 100 | | S066786 | Stock | 4/30/2018 | \$ 0.07 / Ea | 0 | \$6.76 | McMaster-Carr Supply Co, | |
| | 27 | | | 59915K274 | Rod End Bearing D4777-1 | | | | | 20 | | S066787 | Inactive | 4/30/2018 | \$ 17.14 / pcs | 0 | \$342.80 | McMaster-Carr Supply Co, | |
| Total: | | | | | | | | | | 995 | 995 | | | | | | \$1,496.93 | | |



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO039709

E-MAILED
APR 25 2018

| | | | |
|------------------|--|---------------------------------|--|
| Supplier: | MCM001-VU McMaster-Carr Supply Co, P.O. Box 7690 Chicago, IL 60680-7690 USA Phone: 330 995 5500 Fax: 330 995 9600 | PO No: | PO039709 |
| | | PO Date: | 4/25/18 |
| | | Due Date: | 4/27/18 |
| | | Purchase Order Revision: | |
| | | Revision Date: | |
| | | Ship-To Contact: | Lavoie, Chantal Phone: clavoie@dartaero.com |
| Ship To: | 1270 Aberdeen Street Hawkesbury ON K6A 1K7 Canada Phone: 613-632-5200 | Via: | Ground |
| | | Pymt Terms: | 2% 10 Net 30 |
| | | Freight Terms: | |
| | | Special Comments: | |

Items

| Line Item | Part | Supplier Part No | Description | Status | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (USD) | Extended Price |
|-----------|-------------------|-------------------------|---------------------------------------|--------|----------|----------------|-------------------|---------------|------------------|----------------|
| 1 | 8948T12 | | Welded Master Link receive ea | Firmed | 4/27/18 | 6 Ea | 0 Ea | 6 Ea | \$75.65/Ea | \$453.90 |
| 2 | 8623K338 | 1059N976 | Silicon Rubber 1/8" (SOFT) receive sf | Firmed | 4/27/18 | 27 sf | 0 sf | 27 sf | \$55.85333/sf | \$1,508.04 |
| 3 | 188-FSCS-1032-3/4 | 90128A945 50/pk | Bolt | Firmed | 4/27/18 | 50 Ea | 50 Ea | \$0.1424/Ea | \$7.12 | |
| 4 | 188-FSCS-1032-5/8 | 92210A303 100/per pk | Screw | Firmed | 4/27/18 | 100 Ea | 100 Ea | \$0.0761/Ea | \$7.61 | |
| 5 | 3440T55 | 50 ft | Lifting Cable | Firmed | 4/27/18 | 50 ft | 50 ft | \$1.34/ft | \$67.00 | |
| 6 | 6381K193 | 1/pk | Bushing receive pcs | Firmed | 4/27/18 | 6 pcs | 6 pcs | \$3.68/pcs | \$22.08 | |
| 7 | 8183K6 | 1/pk | Wire Guide/Grip | Firmed | 4/27/18 | 10 Ea | 10 Ea | \$9.83/Ea | \$98.30 | |
| 8 | 91074A131 | 20/pk | Cage Bumper Washer | Firmed | 4/27/18 | 20 pcs | 20 pcs | \$0.619/pcs | \$12.38 | |
| 9 | 92373A271 | 10/pk | Anchor Pin | Firmed | 4/27/18 | 10 Ea | 10 Ea | \$0.648/Ea | \$6.48 | |
| 10 | 95327A652 | 5/pk | Hex Head Cap Screw receive ea | Firmed | 4/27/18 | 30 Ea | 30 Ea | \$1.628/Ea | \$48.84 | |
| 11 | 98407A134 | 100/pk | Retaining Ring receive pcs | Firmed | 4/27/18 | 100 pcs | 100 pcs | \$0.0913/pcs | \$9.13 | |
| 12 | 8890K165 | 3 ft long | Steel Rod | Firmed | 4/27/18 | 6 ft | 6 ft | \$1.02333/ft | \$6.14 | |
| 13 | 8893K148 | 6 ft long | O1 Tool Steel Rod | Firmed | 4/27/18 | 6 ft | 6 ft | \$1.011666/ft | \$6.07 | |
| 14 | 91247A630 | 25/pk | Hex Head Cap Screw | Firmed | 4/27/18 | 25 Ea | 25 Ea | \$0.2824/Ea | \$7.06 | |
| 15 | 97524A032 | 100/pk | Sealing Blind Rivet receive ea | Firmed | 4/27/18 | 100 Ea | 100 Ea | \$0.0982/Ea | \$9.82 | |

| Items | | | | | | | | | | |
|-----------------------------------|-------------------------|-----------------------------|---|--------|----------|----------------|-------------------|---------|------------------|----------------|
| Line Item | Part | Supplier Part No | Description | Status | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (USD) | Extended Price |
| 16 | C10-41 | 6907K14 1/pk | Stain Relief Connector | Firmed | 4/27/18 | 8 Ea | 188 | 8 Ea | \$10.30/Ea | \$82.40 |
| 17 | C20-120 | 98381A546 25/pk | Locating Pin | Firmed | 4/27/18 | 25 Ea | 258 | 25 Ea | \$0.2812/Ea | \$7.03 |
| 18 | C20-560 | 97395A618 1/PK | Lock Spring Anchor Pin | Firmed | 4/27/18 | 2 Ea | 28 | 2 Ea | \$4.56/Ea | \$9.12 |
| 19 | C20-830 | 91102A740 100/pk | Lock Washer | Firmed | 4/27/18 | 100 Ea | 100X | 100 Ea | \$0.113/Ea | \$11.30 |
| 20 | EL-PLUG-M | 7216k5 1/pk color yellow | 3-Prong Male Spade Plug | Firmed | 4/27/18 | 15 Ea | 158 | 15 Ea | \$7.03/Ea | \$105.45 |
| 21 | M301S22GA | 3543T77 | 301 SS Sheet - Full hard : MATERIAL: AISI 301 SS SHEET MINIMUM 1/4 HARDNESS (NOT ANNEALED) 2B FINNISH AS PER AMS 5517/AMS 5518/AMS 5902/AMS 5519 OR ASTM A666 WHIT MIN. FTU = 125 KSI & MIN FTY = 75 KSI receive sf | Firmed | 4/27/18 | 3 sf | 3 sf | 3 sf | \$27.4243/sf | \$82.27 |
| 22 | MT-BRONZE-C63000-R2.250 | 8932K54 6.5 INCH | Bronze C63000 Round Bar 2.250" : MAT'L AS PER BRONZE C63000 AS PER ANS 4640 OR ASME SB150 OR ASTM B150 OR SAE J461 OR SAE J463 | Firmed | 4/27/18 | 1.083 ft | 1.07354 | 1 ft | \$16.224615/ft | \$17.57 |
| Line Item Note 2 PCS OF 6.5" LONG | | | | | | | | | | |
| 23 | RBT18561-31 | 8485T13 | 10X Magna-Lite | Firmed | 4/27/18 | 2 Ea | 2X | 2 Ea | \$26.29/Ea | \$52.58 |
| 24 | SWA3-700 | 9529K15 100/per pk | Ball Bearing | Firmed | 4/27/18 | 100 Ea | 100X | 100 Ea | \$0.1056/Ea | \$10.56 |
| 25 | SWA6A-1900 | 69525K16 100 pcs per pk | Female Spade Terminal - 1/4" | Firmed | 4/27/18 | 100 Ea | 100X | 100 Ea | \$0.072/Ea | \$7.20 |
| 26 | SWA6A-2000 | 69525K14 100 / per pk | 1/8" Female Spade Connector | Firmed | 4/27/18 | 100 Ea | 100X | 100 Ea | \$0.0676/Ea | \$6.76 |
| 27 | 59915K274 | | Rod End Bearing D4777-1 | Firmed | 4/27/18 | 20 pcs | 20X | 20 pcs | \$17.14/pcs | \$342.80 |
| Line Item Note WO 176520 | | | | | | | | | | |
| Order Notes | | | | | | | | | | |
| Grand Total: \$3,005.01 | | | | | | | | | | |

CL (initials)

Order Notes

Procurement Quality Clauses
A005 RIGHT OF ENTRY
A016 PERSONNEL QUALIFICATION
A026 CERTIFICATION OF MATERIAL CONFORMANCE
A032 PUBLIC LAW 101-592 FASTENER QUALITY ACT
A033 STATEMENT OF CONFORMITY/TEST RECORDS FOR NAS, AN and MS FASTENERS
A040 NOTIFICATION OF QUALITY ESCAPE
A041 QUALITY MANAGEMENT SYSTEM
A042 DART NOTIFICATION BY SUPPLIER
A043 RETENTION OF QUALITY DOCUMENTS

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 4/25/18 2:42 PM *dart.lavoie.chantal*



200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO039709
Order Placed By
Chantal Lavoie
McMaster-Carr Number
2699881-03

Page 1 of 2
04/25/2018

Packing List

| Line | Product | Ordered | Shipped |
|------|--|------------|---------|
| 1 | 8948T12 Oblong Link Assembly- for Lifting, Grade 80, for 7/32 Chain Trade Size | 6 Each | 6 |
| 3 | 90128A945 Zinc-Plated Alloy Steel Socket Head Screw, 10-32 Thread Size, 3/4" Long, Packs of 50 | 1 Pack | 1 |
| 4 | 92210A303 18-8 Stainless Steel Hex Drive Flat Head Screw, 10-32 Thread Size, 5/8" Long, Packs of 100 | 1 Pack | 1 |
| 5 | 3440T55 Wire Rope - for Lifting, 3/16" Diameter, 50' Length | 50 Feet | 50 |
| 6 | 6381K193 Multipurpose SAE 660 Leaded Bronze Sleeve Bearing for 3/4" Shaft Diameter and 1" Housing ID, 1-1/4" Long | 6 Each | 6 |
| 7 | 8183K6 Brass Submersible Cord Grip, Metric Threads, for 0.12"-0.2" Cord OD, M8 Knockout Size | 10 Each | 10 |
| 8 | 91074A131 Zinc-Flake-Coated Steel Wedge Lock Washer for 3/8" Screw Size, 0.41" ID, 0.65" OD, Packs of 20 | 1 Pack | 1 |
| 9 | 92373A271 18-8 Stainless Steel Slotted Spring Pin, 3/16" Diameter, 3" Long, Packs of 10 | 1 Pack | 1 |
| 10 | 95327A652 Zinc Yellow-Chromate Plated Steel Hex Head Screw, High-Strength, M10 x 1.5 mm Thread, 100 mm Long, Packs of 5 | 6 Packs | 6 |
| 11 | 98407A134 Side-Mount External Retaining Ring, Zinc Yellow-Chromate-Plated Steel, for 3/8" OD, Packs of 100 | 1 Pack | 1 |
| 14 | 91247A630 Medium-Strength Grade 5 Steel Hex Head Screw, Zinc-Plated, 3/8"-16 Thread Size, 1-3/4" Long, Partially Threaded, Packs of 25 | 1 Pack | 1 |
| 15 | 97524A032 Sealing Blind Rivets, Aluminum, Domed Head, with Aluminum Mandrel, 1/8" Diameter, 0.425" Long, Packs of 100 | 1 Pack | 1 |
| 16 | 6907K14 Brass Submersible Cord Grip, NPT Thread, for 0.24"-0.47" Cord OD, 1/2 Knockout Size | 8 Each | 8 |
| 17 | 98381A546 Dowel Pin, Alloy Steel, 1/4" Diameter, 1-1/2" Long, Packs of 25 | 1 Pack | 1 |
| 18 | 97395A618 Dowel Pin, 316 Stainless Steel, 3/16" Diameter, 2" Long, Packs of 1 | 2 Packs | 2 |
| 19 | 91102A740 Zinc-Plated Steel Split Lock Washer for Number 10 Screw Size, 0.2" ID, 0.334" OD, Packs of 100 | 1 Pack | 1 |
| 20 | 7216K5 Straight-Blade Connector, Hinged, 3-Blade Plug, Grounded, NEMA 5-15, Yellow | 15 Each | 15 |
| 22 | 8932K54 Oil-Filled 841 Bearing Bronze Rod, 2-1/4" Diameter, 6-1/2" Long | 1 Each | 1 |
| 23 | 8485T13 Incandescent-Illuminated Magnifying Glass, 10x, 1-1/4" Long x 1-3/8" Wide Lens | 2 Each | 2 |

Packing List

200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO039709
Order Placed By
Chantal Lavoie

Page 2 of 2
04/25/2018

McMaster-Carr Number
2699881-03

| Line | Product | Ordered | Shipped |
|------|--|------------|----------|
| 24 | 9529K15 Hardened 440C Stainless Steel Ball, 1/4" Diameter, Packs of 100 | 1 Pack | 1 1 |
| 25 | 69525K16 Noninsulated Quick-Disconnect Terminals, Single-Crimp Female, 16-14 Gauge, 1/4" Wide x 0.032" Thick Tab, Packs of 100 | 1 Pack | 1 1 |
| 26 | 69525K14 Noninsulated Quick-Disconnect Terminals, Single-Crimp Female, 16-14 Gauge, 0.11" Wide x 0.02" Thick Tab, Packs of 100 | 1 Pack | 1 1 |
| 27 | 59915K274 Corrosion-Resistant Ball Joint Rod End, 3/8"-24 Thread, Right Hand | 20 Each | 20 20 |

Expected to ship

| | | | |
|---|---|-----------|------------|
| 2 | 1059N338 Resilient High-Temperature Silicone Foam, 36" X 36" X 1/8", Soft | 9 Each | 9 May 1-14 |
|---|---|-----------|------------|

Notes about your shipment

The U.S. Department of Transportation regulates the shipping of line 23. By purchasing from McMaster-Carr Supply Company, you agree not to transport or permit others to transport purchased items except in accordance with U.S. law and any other applicable laws.

200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO039709

Page 1 of 1

Order Placed By
Chantal Lavoie

04/25/2018

McMaster-Carr Number
2699881-02

| Line | Product | Ordered | Shipped |
|------|--|-----------|---------|
| 12 | 8890K165 Ultra-Machinable W1 Tool Steel Rod, 0.164" Diameter, 3 Feet Long | 2 Each | 2 |
| 13 | 8893K148 Tight-Tolerance Multipurpose O1 Tool Steel Rod, 0.1250" Diameter, 6 Feet Long | 1 Each | 1 |

Expected to ship

| | | | |
|---|---|-----------|------------|
| 2 | 1059N338 Resilient High-Temperature Silicone Foam, 36" X 36" X 1/8", Soft | 9 Each | 9 May 1-14 |
|---|---|-----------|------------|



Packing List

200 Aurora Industrial Pkwy
Aurora OH 44202-8087
330-995-5500
cle.sales@mcmaster.com

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury ON K6A 1K7
Canada

Purchase Order
PO039709

Page 1 of 1
04/25/2018

Order Placed By
Chantal Lavoie

McMaster-Carr Number
2699881-01

| Line | Product | Ordered | Shipped |
|------|--|-----------|---------|
| 21 | 3543T77 Fatigue-Resistant 301 Stainless Steel Sheet with Certification, 12" x 36", Spring Temper, 0.029" Thick | 1 Each | 1 C |

Expected to ship

| | | | |
|---|---|-----------|------------|
| 2 | 1059N338 Resilient High-Temperature Silicone Foam, 36" X 36" X 1/8", Soft | 9 Each | 9 May 1-14 |
|---|---|-----------|------------|

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M3015226A
 DATE: APR 30 2018

PO / BATCH NO: 039709/5066813

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 3 Pcs
 QUANTITY INSPECTED: 3 Pcs
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 226A
 THICKNESS RECEIVED: 226A
 SHEET SIZE ORDERED: 3X1
 SHEET SIZE RECEIVED: 3X1

| DESCRIPTION | NCR (Check Y/N) | COMMENTS |
|--|--|------------------------------------|
| SURFACE DAMAGE | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT FINISH | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORROSION | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT GRAIN DIRECTION | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT MATERIAL PER M-DRAWING | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | <i>Am5519</i> |
| CORRECT THICKNESS | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| PHOTO REQUIRED | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT REF # TO LINK CERT | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | <i>POFF039709 Part # M3015226A</i> |
| CORRECT MATERIAL IDENTIFICATION | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT M# ON THE MATERIAL | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| DOES THIS REQUIRE AN EXTRUSION REPORT | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |

| CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW | | | | | |
|--|-----|-----|-------|-------|---------|
| TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING | HRC | HRB | DUR A | DUR D | WEBSTER |
| | | | | | |
| | | | | | |

testers located in the Quality Office

| QC 18 INSPECTION | ENGINEERING SIGNOFF (if required) |
|---|-------------------------------------|
| INSPECTED BY <u>DAS</u> <u>11</u> DATE <u>APR 30 2018</u> | SIGNED OFF BY: _____ DATE: _____ |

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 301 SS SHEET
MINIMUM 1/4 HARDNESS (NOT ANNEALED)
2B FINISH

SPECIFICATION:

PER AMS 5517
OR AMS 5518
OR AMS 5519
OR AMS 5520
OR ASTM A666 WITH MIN. Flu = 125 KSI & MIN Fy = 75 KSI

PART NUMBER:

M301S16 (GA)
(GA)

WHERE "TT" = GAUGE THICKNESS

GAUGE THICKNESS REFERENCE:

| GAUGE | NOM. THICK. (IN) | THICKNESS RANGE (IN) |
|-------|---------------------|-------------------------|
| 26 | 0.01875 | 0.0178 - 0.019 |
| 25 | 0.021875 | 0.0199 - 0.023 |
| 24 | 0.025 | 0.024 - 0.026 |
| 23 | 0.028125 | 0.027 - 0.029 |
| 22 | 0.03125 | 0.030 - 0.032 |
| 21 | 0.034375 | 0.033 - 0.035 |
| 20 | 0.0375 | 0.036 - 0.040 |
| 19 | 0.04375 | 0.041 - 0.046 |
| 18 | 0.050 | 0.047 - 0.052 |
| 17 | 0.05625 | 0.053 - 0.058 |
| 16 | 0.0625 | 0.059 - 0.065 |
| 15 | 0.0703125 | 0.066 - 0.072 |
| 14 | 0.078125 | 0.073 - 0.083 |
| 13 | 0.08375 | 0.084 - 0.098 |
| 12 | 0.109375 | 0.099 - 0.114 |
| 11 | 0.125 | 0.115 - 0.130 |
| 10 | 0.140625 | 0.131 - 0.145 |
| 9 | 0.15625 | 0.146 - 0.160 |
| 8 | 0.171875 | 0.161 - 0.176 |
| 7 | 0.1875 | 0.177 - 0.192 |
| 6 | 0.203125 | 0.193 - 0.208 |

C

D

C

B

B

| A | NEW ISSUE REV. | DESCRIPTION | RF | 10.11.08 BY DATE |
|------------|-------------------|-----------------------------|----|------------------------|
| DESIGN | RF | DART AEROSPACE LTD | | |
| DRAWN | RF | HAWKESBURY, ONTARIO, CANADA | | |
| CHECKED | RF | REV. A | | |
| MFG. APPR. | RF | DRAWING NO. | | |
| APPROVED | RF | M301S | | |
| DE APPR. | RF | TITLE | | |
| DATE | 10.11.08 | 301 SS SHEET | | |
| | | NTS | | |

| | | |
|----------|--|------------|
| RELEASED | | 2010-12-16 |
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LA18466 / mo88147



AK Steel Corporation
Metallurgical Test Report
Coshocton Works
17400 State Route 16
Coshocton, OH 43812 U.S.A.

Page 1

Load No. 9669387
Sr No. 9669387

MILL ORDER NO. M 01004687
PROCESSOR ORDER NO. M 01004687
BUYERS ORDER NO. M 01004687

282962-0104
PART NO.
45541

| C S U T M E R | | S H I P T O | | MILL ORDER NO. | PROCESSOR ORDER NO. | BUYERS ORDER NO. |
|---------------------------------|--|----------------------------|--|----------------|---------------------|------------------|
| | | | | 282962-0104 | M 01004687 | M 01004687 |

.0320 NOM 36.0000 X 120.0000
ENGLISH UNITS :PRODUCT:- METRIC UNITS

| LIFT ID | PIECE | HEAT | PARENT LIFT ID | NET WEIGHT | OUTSIDE PROCESSOR ID |
|----------------|-------|-----------------------|----------------|----------------------|----------------------|
| 373383-10A-001 | 84 | 7561249 | 373383-10A | 3,320 LBS. 1,506 KG. | 16100241901 |
| 373383-10A-002 | 84 | 7561249 | 373383-10A | 3,320 LBS. 1,506 KG. | 16100241902 |
| 373383-10A-003 | 84 | 7561249 | 373383-10A | 3,320 LBS. 1,506 KG. | 16100241903 |
| 373383-10A-004 | 84 | 7561249 | 373383-10A | 3,320 LBS. 1,506 KG. | 16100241904 |
| 373383-10A-005 | 16 | 7561249 | 373383-10A | 540 LBS. 245 KG. | 16100241905 |
| TOTAL LIFTS | | TOTAL NET WEIGHT | | | |
| 5 | | 13,620 LBS. 6,269 KG. | | | |

L=Last Analysis of Heat P=Product Analysis of Parent Coil CHEMICAL ANALYSIS

| ID | C | MN | P | S | SI | CR | NI | MO | N | CU | | | | | |
|-----------|-----|------|------|------|-----|-------|-------|-----|------|-----|--|--|--|--|--|
| L 7561249 | .10 | .111 | .024 | .001 | .49 | .1748 | .7.11 | .22 | .032 | .22 | | | | | |



AK Steel Corporation
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17400 State Route 16
Coshocton, OH 43812 U.S.A.

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| | | | | |
|---------------------------------------|----------------------------|---|--------------------------------|-----------------------------|
| CS C S T O M E R | S H I P T O | MILL ORDER NO. 282962-0104 PART NO. 48443 | PROCESSOR ORDER NO. M 01004687 | BUYERS ORDER NO. M 01004687 |
| | | ENGLISH UNITS : PRODUCT: .0320 NOM 36.0000 X 120.0000 | METRIC UNITS | |

SHIPPING DATE: 08/04/2016

REMARKS

NO INTENTIONAL ADDITIONS OF MERCURY OR MERCURY COMPOUNDS WERE MADE OR USED THROUGHOUT THE PROCESSING AND TESTING OF THIS MATERIAL.
NO WELD REPAIRS (WITH OR WITHOUT FILLER METAL) HAVE BEEN MADE.
THIS MATERIAL WAS MELTED AND MANUFACTURED IN THE U.S.A. (DFARS 252.225.7001, 7008 & 7009 COMPLIANT).
STAINLESS STEELS SUPPLIED BY AK STEEL CORPORATION COMPLY WITH THE EUROPEAN END-OF-LIFE VEHICLE DIRECTIVE 2000/53/EC (ELV) AND THE RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE KNOWN AS EU-DIRECTIVE 2011/65/EU, EFFECTIVE JANUARY 3, 2013 (ROHS 2).
RESIDUAL LEVELS OF Hg, Pb, Cd, & HEXAVALENT CHROMIUM ARE WITHIN ACCEPTABLE LIMITS ACCORDING TO THESE DIRECTIVES.
MATERIAL SUPPLIED IN ACCORDANCE WITH EN 10204/2004 TYPE 3.1

PRODUCT DESCRIPTION

CR SHIT TYPE 301 STAINLESS NI 7.04 MIN #2B FINISH FULL HARD SLIT EDGE
A 480-16A EX PARA 25.1.1.3 COIL WILL BE TAGGED ON OUTSIDE ONLY * ASTM A 666-15

| PARENT LIFT | POS | DIR | COND | % ELONG | ELONG METHOD | ELONG GAUGE LENGTH | TENSILE STRENGTH (KSI) | Y.S. .2% OFFSET (KSI) | ROCKWELL HARDNESS Tall | ROCKWELL HARDNESS Front |
|-------------|-----|-----------|---------|---------|-----------------|--------------------------|------------------------------|-----------------------------|------------------------------|-------------------------------|
| 373383-10A | T | T | A.S.T.M | 13.1 | MEASURED | 2 inch | 206 | 168.3 | C 44 | C 45 |
| PARENT LIFT | POS | DIR | COND | % ELONG | BEND 180°T | | | | | |
| 373383-10A | T | (L, T, D) | A.S.T.M | PASS | | | | | | |
| PARENT LIFT | POS | DIR | COND | % ELONG | ELONG METHOD | ELONG GAUGE LENGTH | TENSILE STRENGTH (KSI) | Y.S. .2% OFFSET (KSI) | ROCKWELL HARDNESS Tall | ROCKWELL HARDNESS Front |
| 373383-10A | F | T | A.S.T.M | 11A | MEASURED | 2 inch | 210 | 167.7 | C 44 | C 45 |



AK Steel Corporation
Metallurgical Test Report
Coshocton Works
17400 State Route 16
Coshocton, OH 43812 U.S.A.

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Load No. 9569387
Sm No. 9569387

MILL ORDER NO. M 01004687
PROCESSOR ORDER NO. M 01004687
BUYERS ORDER NO. M 01004687

262962-0104
PART NO.
46443

ENGLISH UNITS -**PRODUCT**- METRIC UNITS

.0320 NOM 36.0000 X 120.0000

| TESTS | | | | TESTS | | | |
|-------------|-----|------------------|---------------|---------------|--|--|--|
| PARENT LIFT | POS | DIR (L, T, D) | COND | BEND 180°T | | | |
| 373383-10A | F | | A.S.T.M. PASS | | | | |

THE CHEMICAL, ANALYSIS AND PHYSICAL OR MECHANICAL TESTS REPORTED ABOVE ARE CORRECT
AS CONTAINED IN THE RECORDS OF THE CORPORATION.

ALL TESTING IS DONE IN ACCORDANCE WITH A.S.T.M. STANDARDS UNLESS OTHERWISE NOTED
THIS CERTIFIED TEST REPORT HAS BEEN DELIVERED TO A CONSIGNEE OF MATERIAL PURCHASED FROM AK
Steel Corporation. TO AVOID THE POSSIBILITY OF ITS USE IN DELIVERY OF THE REPORT TO A
THIRD PARTY IT MUST BE RECEIVED BY AND UNDER THE NAME OF SUCH CONSIGNEE.

AK Steel Corporation 513-422-5000

MMQC004A REV 4 1/14
Program Version LM438B 1.11

SIGNED Christopher A. Rich DATE 08/04/2016 TIME 01:21 PM
QUALITY MANAGER

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-Bronze-C 63000 R2.250 PO / BATCH NO.: 039709/5066782
 DATE: APR 30 2018

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 6"
 QUANTITY INSPECTED: 6"
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.250
 THICKNESS RECEIVED: 2.250
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

| DESCRIPTION | NCR (Check Y/N) | COMMENTS |
|--|--|---|
| SURFACE DAMAGE | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT FINISH | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORROSION | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT GRAIN DIRECTION | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT MATERIAL PER M-DRAWING | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | <u>N/A</u> <u>ID</u> |
| CORRECT THICKNESS | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| PHOTO REQUIRED | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT REF # TO LINK CERT | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | <u>Batch# PO #039709 by Y# 8432K541</u> |
| CORRECT MATERIAL IDENTIFICATION | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| CORRECT M# ON THE MATERIAL | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |
| DOES THIS REQUIRE AN EXTRUSION REPORT | <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | |

| CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW | | | | | |
|--|-----|-----|-------|-------|---------|
| TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING | HRC | HRB | DUR A | DUR D | WEBSTER |
| | | | | | |
| | | | | | |

testers located in the Quality Office

| QC 18 INSPECTION | ENGINEERING SIGNOFF (if required) |
|---|-----------------------------------|
| INSPECTED BY: <u>DAS</u> <u>11</u> <u>APR 30 2018</u> <u>10:18-0430</u> | SIGNED OFF BY: _____ |
| DATE: <u>9-89</u> | DATE: _____ |

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL:

BRONZE C63000

卷之三

ANSI 4040 OR ASME SB1300 OR ASME B1300 OR SAE J461 OR SAE J463

WHERE D DIA IS DIAMETER IN INCHES

EXAMPLE:

1/4" ROUND BRONZE C63000 = MT-BRONZE-C63000-R-0.250

| REV | DESCRIPTION | ECN # | DATE | BY | APPROVED |
|-----|-------------|--------|----------|----|----------|
| A | NEW ISSUE | 17-787 | 17.12.12 | VM | ML |

| TITLE | |
|---|---------------------------------|
| BRONZE C63000 ROUND BAR | |
| Part No. | MT-BRONZE-C63000-R |
| Tool No. | REV |
| INITIALS AND DATE | |
| DESIGNED BY: | A |
| DRAWN BY: | VM 12/17/2012 |
| CHECKED BY: | JOHN M. BROWN 12/17/2012 |
| APPROVED BY: | W. J. BROWN 12/17/2012 |
| APPROVED BY: COPIED 2/2017 BY DART AEROSPACE LTD | |
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Bronze

For information about bronze alloys, see page 3671.

High-Strength Formable 544 Bearing Bronze



- Yield Strength: 50,000 psi
- Hardness: Not Rated
- Temper: H04 (Full Hard)
- Heat Treatable: No
- Specifications Met: ASTM B139

Known for its ability to resist stress cracking and fatigue, 544 bronze also offers good formability and excellent machinability. It's commonly called phosphor bronze. In addition to bearings, it is often used for shafts, gears, and valve parts.

| Dia. | Dia. Tolerance Range | 1/2 ft. | 1 ft. | 2 ft. | 3 ft. | 6 ft. |
|---------|----------------------|----------|--------|--------|--------|----------|
| | | Lg. | Lg. | Lg. | Lg. | Lg. |
| 3/16" | -0.002" to 0.002" | 8971K21 | \$2.69 | \$4.76 | \$8.48 | \$11.79 |
| 1/4" | -0.002" to 0.002" | 8971K31 | 3.39 | 5.99 | 10.68 | 14.84 |
| 5/16" | -0.002" to 0.002" | 8971K33 | 5.47 | 9.69 | 17.27 | 24.00 |
| 3/8" | -0.002" to 0.002" | 8971K35 | 7.78 | 13.76 | 24.53 | 34.11 |
| 7/16" | -0.002" to 0.002" | 8971K22 | 10.27 | 18.17 | 32.38 | 45.02 |
| 1/2" | -0.002" to 0.002" | 8971K71 | 11.19 | 19.81 | 35.31 | 49.08 |
| 9/16" | -0.004" to 0.004" | 8971K119 | 13.42 | 23.74 | 42.32 | 58.83 |
| 5/8" | -0.004" to 0.004" | 8971K23 | 14.84 | 26.25 | 46.79 | 65.05 |
| 11/16" | -0.004" to 0.004" | 8971K24 | 16.94 | 29.98 | 53.44 | 74.29 |
| 3/4" | -0.004" to 0.004" | 8971K73 | 18.72 | 33.12 | 59.05 | 82.09 |
| 7/8" | -0.004" to 0.004" | 8971K25 | 24.22 | 42.64 | 76.37 | 106.18 |
| 1" | -0.004" to 0.004" | 8971K75 | 32.61 | 57.69 | 102.84 | 142.98 |
| 1 1/16" | -0.004" to 0.004" | 8971K26 | 36.87 | 65.23 | 116.28 | 161.65 |
| 1 1/4" | -0.004" to 0.004" | 8971K77 | 42.00 | 74.31 | 132.46 | 184.15 |
| 1 3/8" | -0.004" to 0.004" | 8971K27 | 49.56 | 87.68 | 158.30 | 217.29 |
| 1 1/2" | -0.004" to 0.004" | 8971K79 | 58.96 | 104.32 | 185.98 | 258.53 |
| 1 5/8" | -0.004" to 0.004" | 8971K28 | 65.50 | 115.88 | 206.57 | 287.18 |
| 1 3/4" | -0.004" to 0.004" | 8971K29 | 75.33 | 133.28 | 237.59 | 330.31 |
| 2" | -0.005" to 0.005" | 8971K41 | 94.73 | 167.59 | 298.75 | 415.34 |
| 2 1/4" | -0.006" to 0.006" | 8971K126 | 114.28 | 200.00 | 371.42 | 523.80 |
| 2 1/2" | -0.006" to 0.006" | 8971K133 | 137.25 | 240.18 | 446.05 | 629.04 |
| | | | | | | 1,143.71 |

Oil-Filled 840 and 841 Bearing Bronze Sheets



- Yield Strength:
840 Bearing Bronze: 7,000 psi
841 Bearing Bronze: 11,000 psi
- Hardness: Not Rated
- Temper: Not Rated
- Heat Treatable: No
- Specifications Met: ASTM B436

Powdered bronze is pressed and then impregnated with SAE 30 oil to make this material self-lubricating. Use it to make bearings and parts for hard-to-reach areas that would be difficult to access for lubrication, such as well pumps and turbine blades.

| Thick. | Thick. Tolerance Range | 5" x 6" | | 6" x 12" | | | |
|--------|------------------------|--------------------|---------|----------|--------------------|---------|----------|
| | | Material | Each | Material | Each | | |
| 1/16" | -0.01" to 0.01" | 841 Bearing Bronze | 8933K11 | 568.27 | 841 Bearing Bronze | 8933K24 | \$138.12 |
| 3/16" | -0.01" to 0.01" | 841 Bearing Bronze | 8933K12 | 76.22 | 840 Bearing Bronze | 8933K25 | 153.35 |
| 1/4" | -0.01" to 0.01" | 841 Bearing Bronze | 8933K13 | 75.20 | 840 Bearing Bronze | 8933K19 | 164.05 |
| 3/8" | -0.01" to 0.01" | 841 Bearing Bronze | 8933K14 | 91.10 | 840 Bearing Bronze | 8933K21 | 205.72 |
| 1/2" | -0.01" to 0.01" | 841 Bearing Bronze | 8933K15 | 102.88 | 840 Bearing Bronze | 8933K22 | 248.75 |
| 5/8" | -0.01" to 0.01" | 841 Bearing Bronze | 8933K16 | 119.12 | 840 Bearing Bronze | 8933K26 | 252.48 |
| 3/4" | -0.01" to 0.01" | 841 Bearing Bronze | 8933K17 | 138.83 | 840 Bearing Bronze | 8933K27 | 330.62 |
| 1" | -0.01" to 0.01" | 841 Bearing Bronze | 8933K18 | 157.34 | 840 Bearing Bronze | 8933K23 | 402.60 |

Oil-Filled 841 Bearing Bronze Tubes



- Yield Strength: 11,000 psi
- Hardness: Not Rated
- Temper: Not Rated
- Heat Treatable: No

- Specifications Met: ASTM B438

Powdered bronze is pressed and then impregnated with SAE 30 oil to make this material self-lubricating. Use it to make bearings and parts for hard-to-reach areas that would be difficult to access for lubrication, such as well pumps and turbine blades.

| OD | Tolerance Rating | ID | 3" | 6 1/2" |
|---------------------------|------------------|--------|----------|-----------------|
| | | | Lg. | Lg. |
| 3/16" Wall Thick. | | | | |
| 1" | Oversized | 5/8" | 8931K111 | \$17.27 \$26.57 |
| 1 1/8" | Oversized | 1/2" | 8931K121 | 18.27 28.11 |
| 1 1/4" | Oversized | 5/8" | 8931K131 | 22.57 34.73 |
| 1 1/4" | Oversized | 3/4" | 8931K141 | 24.27 37.34 |
| 1 3/8" | Oversized | 7/8" | 8931K151 | 28.14 43.29 |
| 1 1/2" | Oversized | 1" | 8931K161 | 30.66 47.17 |
| 1 3/4" | Oversized | 1 1/4" | 8931K171 | 31.26 48.09 |
| 2" | Oversized | 1 1/2" | 8931K181 | 36.08 55.51 |
| 2 1/4" | Oversized | 1 3/4" | 8931K191 | 41.83 64.35 |
| 5/16" Wall Thick. | | | | |
| 1 1/8" | Oversized | 1/2" | 8931K201 | 24.02 36.96 |
| 1 1/4" | Oversized | 5/8" | 8931K211 | 25.08 38.58 |
| 1 1/2" | Oversized | 7/8" | 8931K221 | 32.23 49.59 |
| 1 5/8" | Oversized | 1" | 8931K231 | 34.11 52.47 |
| 3/8" Wall Thick. | | | | |
| 1 1/4" | Oversized | 1/2" | 8931K241 | 25.81 39.70 |
| 1 5/8" | Oversized | 5/8" | 8931K251 | 33.56 51.63 |
| 1 1/2" | Oversized | 3/4" | 8931K261 | 32.28 49.66 |
| 1 3/4" | Oversized | 1" | 8931K271 | 38.42 59.11 |
| 2" | Oversized | 1 1/4" | 8931K281 | 42.00 64.62 |
| 2 1/4" | Oversized | 1 1/2" | 8931K291 | 50.56 77.78 |
| 2 1/2" | Oversized | 1 3/4" | 8931K301 | 53.57 82.42 |
| 2 3/4" | Oversized | 2" | 8931K311 | 58.79 90.44 |
| 3" | Oversized | 2 1/4" | 8931K321 | 68.12 104.80 |
| 3 3/4" | Oversized | 3" | 8931K331 | 82.73 127.27 |
| | | ID | 3" | 6 1/2" |
| | | | Lg. | Lg. |
| 7/16" Wall Thick. | | | | |
| 1 1/2" | Oversized | 5/8" | 8931K341 | \$34.35 \$52.84 |
| 1/2" Wall Thick. | | | | |
| 1 1/2" | Oversized | 1/2" | 8931K351 | 37.06 57.02 |
| 1 5/8" | Oversized | 3/4" | 8931K361 | 43.90 67.54 |
| 2" | Oversized | 1" | 8931K371 | 48.93 75.28 |
| 2 1/4" | Oversized | 1 1/4" | 8931K381 | 58.86 90.55 |
| 2 1/2" | Oversized | 1 1/2" | 8931K391 | 61.91 95.25 |
| 2 3/4" | Oversized | 1 3/4" | 8931K401 | 68.61 105.55 |
| 3" | Oversized | 2" | 8931K411 | 78.49 120.76 |
| 3 1/4" | Oversized | 2 1/4" | 8931K421 | 87.10 134.00 |
| 3 1/2" | Oversized | 2 1/2" | 8931K431 | 92.86 142.86 |
| 4" | Oversized | 3" | 8931K441 | 102.80 158.15 |
| 5/8" Wall Thick. | | | | |
| 2" | Oversized | 3/4" | 8931K451 | 53.95 83.00 |
| 2 1/2" | Oversized | 1 1/4" | 8931K461 | 69.39 106.75 |
| 2 1/2" | Oversized | 1 3/4" | 8931K471 | 84.51 130.02 |
| 3 3/4" | Oversized | 2 1/2" | 8931K481 | 116.76 179.63 |
| 11/16" Wall Thick. | | | | |
| 2" | Oversized | 5/8" | 8931K491 | 56.20 86.46 |
| | | ID | 3" | 6 1/2" |
| | | | Lg. | Lg. |
| 3/4" Wall Thick. | | | | |
| 2" | Oversized | 1/2" | 8931K501 | \$60.68 \$93.36 |
| 2 1/2" | Oversized | 1" | 8931K511 | 80.28 123.50 |
| 3" | Oversized | 1 1/2" | 8931K521 | 92.44 142.21 |
| 4" | Oversized | 2 1/2" | 8931K531 | 136.51 210.02 |
| 7/8" Wall Thick. | | | | |
| 3" | Oversized | 1 1/4" | 8931K541 | 97.87 150.57 |
| 3 1/2" | Oversized | 1 3/4" | 8931K551 | 133.25 205.00 |
| 1" Wall Thick. | | | | |
| 3" | Oversized | 1" | 8931K561 | 104.20 160.31 |
| 4" | Oversized | 2" | 8931K571 | 156.57 240.87 |
| 4 1/2" | Oversized | 2 1/2" | 8931K581 | 190.41 292.94 |
| 5" | Oversized | 3" | 8931K591 | 207.77 319.64 |
| 6" | Oversized | 4" | 8931K601 | 256.87 395.18 |
| 7" | Oversized | 5" | 8931K611 | 306.15 471.00 |
| 1 1/2" Wall Thick. | | | | |
| 6" | Oversized | 3" | 8931K621 | 327.13 503.27 |

Oil-Filled 841 Bearing Bronze Rods



- Yield Strength: 11,000 psi
- Hardness: Not Rated
- Temp: Not Rated
- Heat Treatable: No
- Specifications Met: ASTM B438

Powdered bronze is pressed and then impregnated with SAE 30 oil to make this material self-lubricating. Use it to make bearings and parts for hard-to-reach areas that would be difficult to access for lubrication, such as well pumps and turbine blades.

| Dia | Tolerance Rating | | 2" | 3" | 6 1/2" |
|--------|------------------|---------|--------|--------|---------|
| | | | Lg. | Lg. | Lg. |
| 1/4" | Oversized | 8932K31 | \$2.69 | — | — |
| 3/8" | Oversized | 8932K32 | — | \$6.00 | — |
| 1/2" | Oversized | 8932K41 | — | 9.17 | \$12.74 |
| 5/8" | Oversized | 8932K42 | — | 12.76 | 17.72 |
| 3/4" | Oversized | 8932K43 | — | 15.49 | 21.51 |
| 7/8" | Oversized | 8932K44 | — | 17.05 | 26.23 |
| 1" | Oversized | 8932K45 | — | 21.12 | 32.50 |
| 1 1/8" | Oversized | 8932K46 | — | 22.63 | 34.81 |
| 1 1/4" | Oversized | 8932K47 | — | 27.20 | 41.84 |
| 1 3/8" | Oversized | 8932K48 | — | 31.85 | 49.00 |
| 1 1/2" | Oversized | 8932K49 | — | 35.00 | 53.85 |
| 1 5/8" | Oversized | 8932K51 | — | 41.39 | 63.67 |
| 1 3/4" | Oversized | 8932K52 | — | 44.88 | 69.04 |
| 2" | Oversized | 8932K53 | — | 54.93 | 84.51 |
| 2 1/4" | Oversized | 8932K54 | — | 68.55 | 105.46 |
| 2 1/2" | Oversized | 8932K55 | — | 81.49 | 125.37 |
| 3" | Oversized | 8932K56 | — | 115.30 | 177.38 |
| 4" | Oversized | 8932K57 | — | 199.97 | 307.64 |
| 5" | Oversized | 8932K58 | — | 304.24 | 468.06 |
| 6" | Oversized | 8932K59 | — | 427.15 | 657.15 |

3889

Oil-Filled 841 Bearing Bronze Tubes

